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AUTHOR Berkenkotter, Carol; And Others
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ABSTRACT

A study examined a number of concepts drawn from recent research on the social contexts of writing as it is conducted in academic and professional communities to determine how novice writers learn the rhetorical and linguistic conventions that constitute specialized, disciplinary literacy. These concepts were applied to a close inspection of three texts written over an 18-month period by an adult writer, Nate, entering a research community within a doctoral program at a major university. The texts chosen for analysis were introductions to end-of-term project reports which, written in the first three semesters, served as milestones in that they represented the culmination of a semester's thinking on a given research topic and the writer's compiled linguistic and substantive knowledge in his new discipline. The study suggests that the changes occurring over time and the linguistic and rhetorical features of these texts can be seen as indicators of this student's initiation into a disciplinary subspecialty. (One figure and one table of data are included; 42 references are attached.) (KEH)

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Center for the Study of Writing

Technical Report No. 33

SOCIAL CONTEXT AND SOCIALLY CONSTRUCTED TEXTS: THE INITIATION OF A GRADUATE STUDENT INTO A WRITING RESEARCH COMMUNITY

Carol Berkenkotter, Thomas N. Huckin, and John Ackerman

July, 1989

University of California, Berkeley
Carnegie Mellon University

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University of California
Berkeley, CA 94720

Carnegie Mellon University
Pittsburgh, PA 15213

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SOCIAL CONTEXT AND SOCIALLY CONSTRUCTED TEXTS:
The Initiation of a Graduate Student into a Writing Research Community

By

Carol Berkenkotter, Michigan Technological University

Thomas N. Huckin, Carnegie Mellon

John Ackerman, University of Utah

Writing is a profoundly social affair.[1] And like other kinds of linguistic behavior, learning to write is embedded in social, economic, and cultural contexts. Empirical support for a social view of writing can be seen in recent studies by ethnographers and sociolinguists such as Shirley Brice Heath, William Labov, and Jeffrey J. Shultz, Susan Florio and Frederick Erickson. These studies have demonstrated the significance of home and community linguistic contexts in the language behaviors of children and adolescents. At the same time that this research has filtered through discussions in professional journals and at conferences, teacher-scholars with socially derived theoretical perspectives such as David Bleich, Kenneth Bruffee, David Bartholomae and Anthony R. Petrosky have developed innovative pedagogies that build upon the social/communal character of language learning and use. There appears to be an affinity between these socially derived pedagogies and the sociolinguistic and ethnographic research which has focused on language learners' home, community, and public school environments.

Other researchers using a variety of empirical and hermeneutic techniques have recently studied the difficulties that young adult writers confront as they enter the university culture (North), and more specifically their major fields (Herrington; Faigley and Hanson) or graduate studies (Berkenkotter, Huckin, and Ackerman). These studies suggest that students entering academic disciplines need a specialized literacy that consists of the ability to use discipline-specific rhetorical and linguistic conventions to serve their purposes as writers. Academic disciplines have also been characterized as "communities" (Bizzell "Cognition," Herrington, Porter), yet they are not nearly as tangible as the speech communities that Shirley Brice Heath described in her study of the children of Tracton and Roadville. In contrast, a disciplinary "community" is not located in a specific physical setting, but rather, as Charles Bazerman and Greg Myers have shown, its existence can be inferred through studying the discourse that members of a disciplinary subspecialty use in professional forums such as journal articles and conference papers. In this sense "social context" in the academic disciplines is an intellectual construct, a *product* of writers' discourse (Gilbert and Mulkay 39). And the forums for this discourse are both the socially sanctioned journals and conferences as well as more localized forums such as a university's or department's lectures, course offerings, and daily conversations. While educational researchers are beginning to study the ways that writers achieving specialized literacy compose in the immediate social contexts of a classroom or university setting, how may researchers examine the more abstract rhetorical contexts to which the academic writer contributes?

One way is by examining the texts produced for these professional forums, posing the questions, "What are the linguistic and rhetorical features of this discourse?" and "What functions does the discourse in these disciplinary forums serve?" Answering these questions is no small undertaking; however, we would like to suggest that there is a well developed body of research on the discourse of scientists and social scientists which provides a useful theoretical base for investigations of disciplinary-based writing. This research, conducted by sociologists of scientific knowledge scholars who study the rhetoric of scientific communication, has been slower to reach the professional journals in English studies than recent classroom and community studies. Nevertheless, its impact on how we think about writing in academic disciplines will be, we believe, significant.

The purpose of this essay is to introduce a number of concepts drawn from recent research and scholarship on the social contexts of writing as it is conducted in academic and professional communities. We will then apply these concepts to an examination of three texts written over an 18 month period by a doctoral student in a rhetoric Ph.D. program. Finally we will propose that the changes occurring over time and the linguistic and rhetorical features of these texts can be seen as indicators of this student's initiation into a disciplinary subspecialty.

Charles Bazerman, Greg Myers, Jeanne Fahnestock, John Swales, and Thomas Huckin have recently introduced in their work a well developed body of research on the sociology of scientific knowledge. The significance of this latter research is that it ties writing to what Karen Knorr-Cetina calls the *manufacture of knowledge* within a discipline. By "manufacture of knowledge," Knorr-Cetina means that scientific knowledge accrues through a system of text production in which research outcomes are written up, reviewed, published and later cited or rejected. Within this system, "knowledge" is generated through claims scientists make in research reports, journal articles or grant proposals. These claims are frequently modified through a process of negotiation between writer and "gatekeepers," i.e., peer reviewers, editors, decision makers in funding agencies. "Negotiation" refers to the series of revisions that the writer makes in his/her persona, style, and claims in response to reviewers' objections--both actual and anticipated.

Greg Myers has documented some of the ways that academic writers negotiate with reviewers, in his case studies of two biologists revising grant proposals and journal articles. Myers' subjects, Professors Bloch and Crews, were well known scientists, each having achieved recognition within a subspecialty of biology. Bloch, however, was entering a new subspecialty, and Crews was making a claim that challenged established thinking in his field. Both scientists faced considerable difficulty in getting their work published and in obtaining federal funding to continue research in areas that deviated from the *status quo*. Both Bloch and Crews were highly skilled at accommodating readers' objections by softening their claims and by altering their *personae* and word choice. In Bloch's case, despite adroit revising, the scientist was unable to secure the funding he sought to support further research. This problem appears to have stemmed largely from the fact that he lacked authority in the form of previous publications or citations in the literature of the subspecialty he was entering. The revising difficulties of Crews and Bloch demonstrate that the disciplinary community to which a writer contributes wields considerable power over which claims reach publication. The writer's status within a disciplinary subspecialty appears to be a critical factor as well as the originality of his or her claims.

In short, scientists must work within various sociopolitical constraints imposed by a discipline's methodological and theoretical status quo. These sociopolitical constraints not only affect a scientist's research program but also his or her writing behaviors. Scientists do not simply "let the facts speak for themselves," but must constantly appraise and reappraise the rhetorical situation in which they are writing. They must fashion their claims and choose their words carefully, and must also be concerned with presenting a persona which is situationally appropriate. These rhetorically-based strategies figure significantly in scientists' writing and revising processes, since a writer's claims are evaluated by peers within the framework of community consensus.

Conventions, Codifications, and Audience Expectations in the Natural and Social Sciences

Recent research in the sociology of scientific knowledge provides a sociopolitical perspective for looking at writing within disciplinary contexts. From this perspective research articles are rarely simple narratives of investigations, but are complex, socially negotiated reconstructions of research activities. Articles which are published in professional journals or grant proposals which are funded must pass the scrutiny of peer reviewers. Reviewers function as gatekeepers maintaining a subspecialty's methodological and theoretical status quo. Writers must therefore be careful of whose toes they tread upon when advancing claims about their research. Moreover, to be successful, writers must draw upon a repertoire of rhetorical strategies to steer a course between presenting original claims and securing their readers' consensus that a claim is acceptable as well as novel. Not only must writers use various rhetorical and linguistic devices in order to negotiate with their readers, but they must also possess a thorough familiarity with the conventions of writing in their subspecialty so that they can use these conventions to their best advantage. In the following section of this chapter we will discuss recent research on the role that conventions play in disciplinary-based writing.

Over the last several years Charles Bazerman has examined the functions of conventions in writing in different disciplines. In a 1981 essay, he compared articles in the natural sciences, social sciences, and in literary criticism ("Written Knowledge"). Bazerman analyzed and contrasted such features as each article's lexicon, the writer's citations of previous literature, his persona and rhetorical arguments in order to illustrate the differences between the linguistic and rhetorical strategies that writers in different fields employ to achieve consensus. Although one cannot assume that the three articles Bazerman analyzed are representative of differences existing between writing in the natural and social sciences and in the humanities, his study does establish that "each text seems to be making a different kind of move in a different kind of game" (378). Another way of putting this is to say that writers work within different *interpretative frameworks* in order to persuade their readers. As Stanley Fish has pointed out, a discipline's interpretative framework is, in part, the sum of its members' shared concepts, values, and meanings (12-17). Many of these concepts, values, and meanings are codified in texts in the form of linguistic and rhetorical conventions. Bazerman suggests that:

> the individual writer in making decisions concerning persuasion, must write within a form that takes into account the audience's current expectations of what appropriate writing in the field is. These expectations provide resources as well as constraints, for they provide a guide as to how an

> argument should be formulated, and may suggest ways of presenting material that might not have occurred to the free play of imagination. Moreover, the conventions of genre and style help designate issues for particular attention and persuasion. The conventions provide both the symbolic tools to be used and suggestions for their use (165).

In the article in which the above quotation appears, "Modern Evolution of the Experimental Report in Physics: Spectroscopic Articles in Physical Review, 1893-1980," Bazerman examines the changing conventions of a developing genre, the experimental report in one subspecialty of physics, spectroscopy. He shows how such features as article length, citations, sentence length and syntax, vocabulary, graphic features, organization, and argument were altered by theoretical developments in the field. This historical case study of the relationship between emerging theory and changing conventions in a field is significant because it demonstrates that conventions are as much a product of the discipline as are its knowledge claims. Moreover, since the institutional arrangements of writing conventions *directly affect* the symbolic representations that constitute knowledge, writing conventions *help define* the very thing called "knowledge" (165-166, emphasis ours).

Bazerman's claim might appear epistemologically untenable to philosophers of science and others who would argue that discourse conventions in scientific reporting have little if any heuristic function. His perspective, however, has received considerable support from a number of linguists who have analyzed text conventions in scientific journal articles. Thomas N. Huckin, for example, analyzed the leading journals in molecular biology and physics and found evidence that genre conventions reflect a discipline's values, interests, and epistemology. By examining journal articles both synchronically and diachronically with the help of six specialists, he was able to detect changes in text conventions that mirror changes in the way these scientific communities carry on their work. More specifically, he found that recent historical changes such as the increasing competitiveness, specialization, and collaboration occurring within modern science have caused scientists to adopt reading behaviors similar to those of newspaper readers, searching in top-down fashion for "the news." This in turn has led them to promote newsworthy information in their writing by loading it into prominent textual positions, e.g., titles, section headings, summaries, and visual aids. To become proficient scientific communicators, Huckin argues, students need to understand how these evolving genre conventions simultaneously influence and reflect changing audience expectations.

John Swales in a number of articles has reported on his investigation of the relationship between text conventions and readers' expectations in professional journal articles in the natural and social sciences. Swales looked at the introductions to journal articles and found that they were particularly susceptible to rhetorical analysis:

> There is a tendency to believe-- and this tendency is greatly reinforced by all the technical manuals on the writing of scholarly words-- that writing an introduction is an activity totally governed by objectivity and reason, and devoted to straight reportage of previous research and judicious appraisal of the place and merit of the writer's own research. However, the more I have examined Article- Introductions from a range of fields, the more I have become convinced that this belief is a polite fiction. It seems to me

> that many Article-Introductions are essentially exercises in public relations. On the surface they may indeed be instances of problem- solving text types, but beneath the surface they are pleas for acceptance, and designed accordingly. ("Structure of Introductions" 82)

Swales examined the introductions to 48 articles in the natural and social sciences, and found that most of them contain a sequence of four rhetorical "moves" through which a scientist creates a *research space* for his work. Using these moves, the writer (1) establishes the field in which he is working, (2) summarizes related research in the area of concern, (3) creates a research space for his own work by indicating a gap in current knowledge or by raising questions, and (4) introduces his study by indicating what the investigation that he is reporting will accomplish for the field ("Structure of Introductions" 80-92; "Article Introductions" 178-180). An illustration of this four-move schema occurring in a journal with which many readers will be familiar, *Research in the Teaching of English*, is given below:

1. Establishing the Field:
The term "writing apprehension," originally coined in 1975 by Daly and Miller (1975b), refers to a generalized tendency to experience "some form of anxiety when faced with the task of encoding messages."

2. Summarizing Previous Research:
Much of the early research in writing apprehension was concerned with defining the theoretical construct of writing apprehension and establishing the validity of the Writing Apprehension Test (WAT), an instrument designed to measure that construct (Daly and Miller, 1975b, 1975c). Later research has explored the correlative and predictive functions of the WAT. Specific studies have connected scores on WAT with choice of academic majors and careers (Daly and Shamo, 1976, 1978), scores on self-concept and self-confidence measures (Daly, 1979), and performance on various assessments of writing skill and writing quality (Daly, 1978a, 1978b; Daly and Miller, 1975a, 1975d).

3. Creating a Research Space by Indicating a Gap:
To date, however, no substantive research has been done to define the relationship between writing apprehension and the processes students employ as they compose. It is not even certain, for example, how or to what extent the theoretical construct of writing apprehension is evidenced during the act of composing, whether, in other words, there are definable differences between the composing process (sic) of high and low apprehensives.

4. Introducing Present Research:
The current study was designed to address this particular question.
The research project reported in this paper had three main goals:

1. To record the predrafting processes of several high and several low writing apprehensives engaged in academic writing.
2. To analyze the predrafting processes of both groups.
3. To examine the results of this analysis for evidence of differences related to writing apprehension. (Selfe 45-46)

Figure 1. Illustration of Four Rhetorical Moves in Article Introductions. (after Swales, 1981)

As Swales' model predicts, this writer immediately identifies the research context in which she will later place her own study by defining the terms which constitute the general research area and naming the researchers who coined the term "writing apprehension." She then establishes a historical context by enumerating previous studies. In three sentences through highly condensed summarizing, she presents a brief overview of the field. Having established this overview, she is ready to make the next rhetorical move by raising issues and questions that have not been addressed in the literature. Swales points out that the onset of this third move is marked by one or two linguistic features: a contrastive connector like "however," and some negative element that will be found in the thematic sentence-initial position. In this instance, the writer uses both features, combining "however" with the negative construction "no substantial research" in the thematic position of the first sentence of that move. A second negative, "It is not even certain," appears in the thematic position in the following sentence, linking new information to that in the previous sentence. By identifying two issues that have not yet been addressed--"defining the relationship between writing apprehension and the processes students employ as they compose," and "whether there are definable differences between the composing process (sic) of high and low apprehensives"--the writer creates a niche or "research space" for her own study. This she introduces in the next sentence, "The current study was designed to address this particular question," and presents her purpose by enumerating the three goals of the research project she is to report.

As Swales notes, the sequence of these four moves is not invariable ("Structure of Introductions" 80; see also Crookes 65). For example, in a longer article introduction we might expect to see the second and third moves in an iterative pattern, the writer citing relevant research first to establish the centrality of the area that she is working in, and then to set the stage for the gap that her study will fill. Nor will readers necessarily find all four moves present in every article. Professional journals very in their formats, and conventions, as Bazerman has shown, change over time ("Modern Evolution"). Still, the regularity with which these four moves appear in scientific journal article introductions suggests that Swales' four-move schema constitutes the basic pattern, of which other sequences are variations.

Swales' analysis of the four moves of article introductions has a number of implications for our understanding of how professional writers compose article introductions. It suggests that when professional writer-researchers write article introductions, they bring into play a considerable amount of both subject matter knowledge and procedural linguistic knowledge. Because article introductions contain a great deal of information (sometimes as many as 30 summaries of related research) in a relatively small space, writers have to master both the technique of summarizing and the procedures that will enable them to summarize according to their rhetorical purposes. Learning and using the conventions of the article introduction may well constitute the most difficult part of research writing, especially for novice researchers.

Of most relevance to the text analysis included in this essay, however, is Tony Dudley-Evans' adaptation of Swales' approach in analyzing the introductions of student research papers. Dudley-Evans examined the introductions of seven master's theses in Plant Biology, ranging in length from 320 words to 4,640 words, and found that Swales' four-move schema was not adequate to describe their rhetorical complexity. In all of these theses, which were rated "satisfactory"

to "good" by a Plant Biology professor, the writers went to far greater lengths to establish and justify the research topic than was done in Swales' journal articles. Dudley-Evans proposes the following six-move schema to describe these introductions:

Move 1: Introducing the Field
Move 2: Introducing the General Topic (within the Field)
Move 3: Introducing the Particular Topic (within the General Topic)
Move 4: Defining the Scope of the Particular Topic by:
- **(i) introducing research parameters**
- **(ii) summarizing previous research**

Move 5: Preparing for Present Research by:
- **(i) indicating a gap in previous research**
- **(ii) indicating a possible extension of previous research**

Move 6: Introducing Present Research by:
- **(i) stating the aim of the research**

or

- **(ii) describing briefly the work carried out**
- **(iii) justifying the research.**

Figure 2. A Six-move Schema of Rhetorical Moves for Master's Theses in Scientific Fields. (Dudley-Evans, 1986)

Although Dudley-Evans does not venture an explanation for the differences between journal article introductions and thesis introductions, we suppose that thesis introductions are more elaborate because students are expected to display their knowledge in a more comprehensive way, and to presuppose less knowledge on the part of the reader, than are writers of specialized journal articles. In any event, since the subject of the research reported here is a graduate student learning the conventions of social science research writing, we find that Dudley-Evans' student-oriented schema is more appropriate than Swales' professional-oriented one for the study at hand.

Learning the Conventions of Discipline-Based Writing: Nate, a Case Study

The research described in the previous section suggests that much may be learned about the social contexts of disciplinary-based discourse by studying the conventions that writers use and the argumentative purposes that different conventions encode. Bazerman combined textual analysis with historical and sociological perspectives; Huckin, Swales, and Dudley-Evans have analyzed the conventions of research reports using the tools of discourse analysis. These techniques may be used in the context of case study research as Myers' study of two biologists' revisions demonstrates. The work of these researchers opens up new ways of investigating how novice writers learn the rhetorical and linguistic conventions that constitute specialized, disciplinary literacy.

One of these ways consists of a close inspection of texts written over time by an adult writer entering a research community within a doctoral program at a major university. It is important to note that this writer was not a blank slate when

he entered the program, and that it would be reductive to claim that a writer's linguistic behavior emanated from any single community. Writers belong to more than one linguistic community, and the graduate student we chose to study, "Nate," wrote as a teacher, a creative writer, and increasingly with training and exposure to a new field of study as a researcher (Berkenkotter, Huckin, and Ackerman). Nate was a first year doctoral student in the rhetoric program at Carnegie Mellon University. Having received a B.A. and M.Ed. in English and in Curriculum and Instruction, and having taught freshman composition for six years prior to entering the program, Nate brought considerable experience and linguistic expertise to graduate school. His background, however, was relatively far removed from social science expository writing, a common and preferred form of academic discourse in this programs.[2]

We hypothesized that the change in Nate's writing toward conventions of social science discourse can best be understood from the sociolinguistic perspective of language operating in a "multidimensional space." Richard A. Hudson, paraphrasing Robert B. LePage, argues that writers can and do belong and respond to more than one community at once, and that a writer "chooses" to address a community with corresponding linguistic and topical conventions (13-14). For a writer entering a new community, as was the case with Nate, this choice was hardly clearcut or final. The texts chosen for analysis were introductions to end-of-term project reports written in Nate's first three semesters. These reports served as mileposts in that they represented the culmination of a semester's thinking on given research topic and the writer's compiled linguistic and substantive knowledge in his new discipline. Since these texts are introductions to papers that Nate wrote for course assignments rather than articles submitted for professional journals, we cannot expect him to exhibit a command of the conventions of article introductions that Swales describes. Yet, in spite of the obvious differences in school and professional contexts, constraints, and purposes for composing, this writing increasingly shows signs of the adoption of the conventions of social science research reporting, the conventions of his newly adopted community.

Thus the introductions to Nate's research reports can be viewed not only for presence of the rhetorical features that mark acceptance in a national community of researchers but for facility with and dependence on topics and language from both his past and from his immediate social context. In these introductions we shall see Nate integrating new topical and rhetorical information with old, the latter derived from his teaching background and familiarity with literary forms of discourse. Throughout graduate school, Nate was becoming familiar with his professor's research agendas and with the disciplinary issues being discussed in the classrooms, hallways, and offices, at department colloquia, conferences, and other gatherings. This interaction was "collaborative" in the sense that his reading and writing allowed him to participate in locally defined debates and inquiry (LeFevre 62). At the same time Nate was also learning social science research methodology and immersing himself in the professional journals and technical reports which essentially comprised the textual counterpart of his new field of study. Thus, he was not only learning how to converse within the immediate context of a graduate program, he was learning the conventions appropriate to a larger research network.

The first introduction is from a report on a survey Nate conducted three months after he entered the program. The audience for this report was two professors of an introductory research methods course that all students in the rhetoric program are required to take in their first year. The sentences have been numbered for later reference.

Text 1

How and Why Voice is Taught: A Pilot Survey

Problem

The English profession does not agree on what a "writer's voice" means or how the concept should be used to teach writing, equating it to personal style, literary persona, authority, orality, or even grammar.(1) When teachers, writers, and researchers comment on the phenomenon of voice, they usually stay on a metaphorical level.(2) Voice is "juice" or "cadence." (3) The concept appears to be too illusive and too closely tied to personal rhetorical philosophy, disallowing a generally accepted definition for common usage.(4) A novice writing teacher, then, might say "You don't know what it is.(5) I don't understand it.(6) How or why should I teach it?"(7)

It should be taught.(8) Most experienced teachers and accomplished writers recognize that in spite of the wide range of definitions the concept of voice is somehow central to the composing process.(9) Some believe that without voice, true writing is impossible.(10) Until the profession understands the phenomenon or in some way addresses what these experts are saying, a paradox exists, and the novice writing teacher confronts a mixed message.(11) Voice should not remain just another eccentricity in an already idiosyncratic profession.(12)

Background

Who are these "accomplished" teachers, writers and thinkers who uniquely honor a writer's voice?(13) Aristotle, Coleridge and Moffet have acknowledged the impact of the"self" on an audience.(14) Donald Murray and other contemporary rhetoricians state without reserve that this *self*, the writer's voice, is "at the heart of the act of writing."(15) From my experience writing and teaching writing I know that a writer's voice can spirit a composition and, if the voice is misplaced or confused, can drive a teacher or writer batty. (16) If I say to my class "No, No the voice is all wrong here," or "Yes, I can hear you now," I might induce the kind of authority I seek, but I am probably sending one of those strange undecipherable teacher-messages that students rightfully ignore or misinterpret.(17) I am liable to get talk-writing or emotions unbound. (18) Like the accomplished experts and theorists, I tacitly know that voice is important, but I am not necessarily equipped to translate this importance for my students.(19)

Are there other teachers who face or at least perceive the same dilemma?(20) I sense that there are, but a hunch is not good enough.(21) Since I have invested time and energy searching the question of voice, I worry that my observations and suspicions are egocentric.(22) Before I tire myself and my colleagues with a series of inquiries and experiments, I must decide if a problem actually exists.(23) Therefore I composed a pilot survey to tell me if I should continue my study of voice and in what direction. (24) The survey, a questionnaire, was aimed at other writing teachers in the Pittsburgh area.(25) By asking if, how, and why voice is taught I hoped to understand the boundaries of my questions and my universe.(26)

This text is a good example of a writer working in a multidimensional linguistic space because we find evidence of Nate's past experience and interests merging with new research methods, problems, and rhetorical forms. Nate had entered the rhetoric program in part because he wanted to learn research methods to help him answer questions growing out of his experience as a freshman writing teacher. His first research assignment was to search for a "felt difficulty," that is, an intensely felt issue, question, or problem. He chose to survey ways that college-level writing teachers used the concept of voice. Nate's view that writers have a "personal voice" was central to his teaching philosophy and guided his participation in a National Endowment for the Humanities seminar the summer before he entered the Ph.D. program. Thus, the introduction to his survey reveals Nate's current epistemic position that an understanding of "voice" is essential to an understanding of the writing process and is also his first presentation of research to a critical social-science oriented audience.

That Nate seems to be addressing more than one audience in this paper is suggested by the vocabulary and genre features he uses. He mixes terminology suitable for social science expository writing ("phenomenon," "paradox," "acknowledged," "pilot survey") with colloquialisms like "batty," "liable to," and "hunch." He talks in neutral language about "a series of inquiries and experiments" and then changes register and talks in a more personal vein about "the boundaries of my questions and my universe."[3] Although he appears to be following a social science text schema by labeling segments of the introduction "Problem" and "Background," his use of these subheadings seems imitative rather than based on true genre knowledge. His problem statement consists of a series of assertions about the importance of teaching and researching voice.

Nate's aim here appears to be persuasive; he wishes to convince his readers that it is important to begin to isolate the phenomenon of voice in order to characterize and thus define it. In sentences 13-19 he attempts to elaborate on the problem, first by referring to such diverse authorities as Aristotle, Coleridge, Moffett, and Murray. Instead of including citations to specific works, however, he mentions these four names only in passing; most of the support he marshals for his claims comes from personal testimony. By not placing his research within a larger disciplinary frame of reference, he cannot offer his audience a warrant in the form of citations which designate an established field to which his present study will contribute (Toulmin 97-107). From the perspective of his immediate audience, Nate's persuasive strategies would likely be ineffective, since he neither bases his claims on shared knowledge nor uses conventions that will enable him to establish warrants for his claims. From the perspective of his N.E.H. or freshman composition writing communities, on the other hand, his strategies would probably be quite effective.

A comment in one of Nate's self reports shows he was aware of his new role in a research community and a change in his writing:

> *I always intended to be sensitized to the scientific canon, something I accept like my father's lectures on handshakes, something I just need to do if for no other reason than you have to know something from the inside before you can fairly criticize it.*

Yet the warrants behind the claims in his report rest in his shared experience with fellow teachers and writers and not in explicit connections with previous research or scholarship. Although this writing does not create a "research space" in the way Swales describes, we can still say the text is socially constructed. It reflects Nate's recent participation in a linguistic community where the rhetorical moves of social science are less attractive and personal appeals and experience are more common. Readers from Nate's previous community would (and did) find his claims accurate and without need of further substantiation. What interests us here is that this writing, though originating with a personal "felt difficulty," was a first attempt at social science prose. Nate responded (predictably) by relying mostly on the wealth of substantive and linguistic knowledge that he brought to the program.

Six months later in the program, Nate wrote an introduction to a research report for his Process of Composing course. Nate described a pilot study he conducted using "think-aloud" research methodology. Nate began this introduction as he had Text 1, by introducing a problem that his research was to address. However, Text 2 reflects a new area of personal inquiry and research in which he is drawing on newly acquired theoretical knowledge of cognitive psychology as well as knowledge from his coursework, from his exposure to a new literature.

Text 2

Reframing: The Role of Prior Knowledge in the Process of Reading to Write

Introduction

The Problem

It is nearly impossible to ignore the remarkable efforts by researchers and theorists over the last 15 years to understand the composing processes of writers. (1) It is equally remarkable to consider how little is known about the reading process, especially as a companion process to writing. (2) Many of the academic exercises our students encounter or the competencies we aspire for them embrace both domains. (3) Only recently have researchers begun to study relationships between reading and writing processes, focusing primarily on how reading affects the development of a writer (Smith, 1982; Scardamalia and Bereiter, 1984).(4)

One reason for this seeming oversight may rest in our short-sighted image of the writer. (5) Romantic philosophies and practices urge self-determinism; and writing is seen as a lonely struggle, the writer armed only with a blank legal pad, introspection, and the admittedly noble cause of writing to discover a universe.(6) Though I do not argue the place or nature of expressive writing, I do argue that another image of the writer is equally viable. (7) Writers collaborate, for one thing, with other writers (Ede and Lunsford, 1984) and with other language communities. (8) Among others, Patricia Bizzell (1984) draws our attention to the price paid for ignoring the conventions and genres of an academic community. (9) Working from that image, the writing in college is social, and assignments include the artful manipulation of texts and task, of plans and intentions, of community and self. (10)

If composing is multi-dimensional, what processes must a writer manage in order to move gracefully from the act of critical reading into the act of critical writing? **(11)** And if "grace" is not possible, what constraints interrupt and alter the process for a writer who must first read to write? **(12)** In this report and proposal I describe what I am calling reframing, one cognitive component in the process of reading to write. **(13)** To reframe means to map semantic schemas from prior knowledge onto key propositions in freshly encountered material. **(14)** Readers reframe to create manageable "gists" dependent on experience related to the subject domain and their representation of the task. **(15)** Reframing is best understood as a constructive act of reading: a lessening of informational loads, a creating of plans and a shaping of content-- all of which drive the draft that soon follows. **(16)**

Text 2 differs in many ways from Text 1. Although this assignment asked Nate and his classmates to begin with an "interesting feature" in the protocol transcripts, an assignment that appears to invite a personal perspective, Nate writes with much less a sense of a "felt difficulty" and without personal testimony. Here, his writing is "collaborative" in that this text recreates a discussion from the immediate context of the graduate course. For example, in the second paragraph Nate offers an alternative "image of the writer" and cites examples (lines 7 and 8) from scholarship on "collaboration" and "academic communities." Comments from Nate's self reports and his professor's positive reception of this argument suggest that Nate has successfully entered into a local conversation. This conversation would, however, exclude others. Sentences 14-16, for example, are written in language that would have been understood by Nate's reader, but is jargon ("semantic schemas," "key propositions," "informational loads," etc.) to readers unfamiliar with psycholinguistics. Nate also appears to be using a more situationally appropriate register in Text 2 than he had in Text 1. Instead of colloquialisms like "hunch" and "batty," we find him employing more formal lexical choices which include "encounter," "aspire," "viable," and "admittedly." Finally, the I-centered focus of Text 1 seems to be giving way to a broader, more communal perspective: whereas the first person singular pronoun was used heavily in Text 1 (19 times), here there is a 4-4 split between the first person singular and the first person plural.

Genre features also point to Nate's growing identification with a disciplinary community. Indeed, this text conforms very nicely to Dudley-Evans' six-move schema for academic science writing. In sentence 1 he introduces the general field, "the composing processes of writers" (Move 1). In sentences 2 and 3 he introduces the general topic within the field, "the reading process, especially as a companion process to writing" (Move 2). Sentence 4 introduces the particular topic, "relationships between reading and writing processes" (Move 3). In sentences 4-10 he defines the scope of the particular topic by introducing research parameters and summarizing previous research (Move 4). Sentences 11-12 prepare for present research by raising questions (Move 5). And in sentences 13-16 he introduces the present research (Move 6) by describing briefly the work carried out (but see discussion below).

Text 2 occupies a transitional position between Texts 1 and 3. On the one hand, Nate can be said to be constructing an argument in this introduction that will enable him to create a "research space" for his study. Not having received formal instruction in the rhetorical moves of introductions, he has apparently picked them

up, at least superficially, from his reading, for he displays all four of Swales' moves and all six of Dudley-Evans', in the right order. On the other hand, he does not situate the field and the topic in the kind of detail that would be called for in either a journal article or a thesis (Moves 1-3). His attempt to summarize previous research (Move 4), though more focused than in Text 1, is still somewhat vague and discursive. Move 5 is clear enough, but coming on the heels of weak Moves 1-4, a journal editor, for example, might not fully expect it. Move 6 seems clear enough generally, but it does not, according to the Dudley-Evans' schema, adequately describe the work actually carried out in this study (case studies using protocol analysis).

Although Nate's assignment was actually to write a proposal for more research based on his pilot study, as if he was seeking funding, his argument would not succeed in the eyes of a reviewer outside his locale. Similar in kind to the revising difficulties of Professor Bloch in Myers' study, Nate does not provide enough explicit detail, or more importantly, does not establish his authority by citing previous publications and acknowledging established arguments within an existing research forum. If Nate's report was submitted for a review by an editor or grant reviewer, we could expect the reader to puzzle over what is assumed to be shared knowledge. For example, the connection is not explicitly clear between researchers and theorists concerned with collaboration and social contexts (sentences 8-10) and then "critical" reading and writing in the last paragraph of the sample. It would not be immediately clear how the questions posed in sentences 11-12 relate to the discussion in the preceding paragraph. However, for Nate's immediate reviewer, his professor and even other members of his research seminar, this argument is much less elliptical. The antecedents to the propositions on collaborative writing, social contexts, and critical reading and writing are traceable to earlier drafts, comments by his professor and classmates, and class discussion as evidenced by Nate's self reports on the semester. Text 2 is transitional because it exhibits the outward signs of the rhetorical devices of a social science subspecialty, with a system of warrants, claims, and rhetorical structures while at the same time the introduction is clearly a collaborative local construct, dependent upon the shared knowledge of a limited set of readers.

Text 3 is the introduction to a research report Nate wrote in December, 1985, after having been in the rhetoric program for a year and a half. The immediate occasion of the report was a term project for a course, "Computers and Rhetorical Studies." Nate also used this introduction for a shorter paper that he wrote for a psychology department course on human problem-solving. Thus the paper was written for two immediate readers--his rhetoric professor whose background was in computer science and a senior psychology professor. As we shall see, however, Text 3 reflects not only Nate's immediate rhetorical situation, but also his intellectual identification with the research agenda of the professor of his Process of Composing course for whom he wrote Text 2. Through that professor he was beginning to participate in a network of researchers beyond this local university setting who were asking questions about the interactions between reading and writing processes when writers are faced with the task of composing from source materials (as seen in his references to Smith, Langer, and other researchers). In this sense, Nate was not only fulfilling course assignments with this project; he was also writing to participate in a local dialogue as well as writing to enter into the professional conversation of a research subspecialty.

Text 3

Toward a Generative Computer Environment: A Protocol Study

The Problem

Although reading and writing have received national attention with the advent of the literacy crisis, only recently have researchers begun to study relationships between reading and writing processes.**(1)** That research has focused primarily on how reading affects the development of young writers (Smith, 1982; Scardamalia and Bereiter, 1984).**(2)** There is little research at all that looks specifically at how reading and writing facilitate each other (for a speculative study see Petrosky, 1982).**(3)** This dearth is especially curious in the light of the amount of academic learning that depends on simultaneous expertise in both modes of expression.[4] **(4)**

Dead center in the reading-to-write question is the role of experiential knowledge. **(5)** Accomplished writers (who are surely accomplished readers) admonish novice writers for straying too far from topics nourished by experience or substantial study (Murray, 1981 and Mc Phee, 1984). **(6)** Similarly, research overwhelming supports our intuitions that background knowledge significantly affects the construction of meaning in a text (Anderson, 1977; Goodman and Goodman, 1978; Harste, Burke and Woodward, 1982; and Langer, 1984). **(7)** What advice, then, do we give our students--when they continually face reading and writing assignments demanding facility with both text-based and experience-based knowledge? **(8)**

The Study

Judith Langer (1985) partially answered that question by analyzing the effects of text-based topic knowledge on 10th grade writing.**(9)** She found, via a free-association test, a direct and positive relationship between her subjects' ability to hierarchically display the meaning of a passage and the ability to compose later a "coherent" draft.**(10)** Following Langer's lead, this study explores how topic knowledge affects academic writing and, more specifically, how experiential knowledge becomes the major variable in a reading and writing scenario.**(11)** Although Langer's study begins with much the same question for research, important distinctions must be noted. . . **(12)** (Here Nate elaborates on differences between his project and Langer's. We have omitted this passage for the sake of brevity.)

The primary goal of this study is to describe how experts use experiential knowledge to invent original, effective organizational patterns in their plans and drafts.**(13)** Bonnie Meyer (1984) has documented a reader's affinity for hierarchical text plans or, what might be called, the traditional mental representations that guide comprehension in print. **(14)** Since Aristotle we know that rhetorical discourse follows common logical patterns. **(15)** From years of exposure to these basic plans--antecedent/consequent, comparison, description/response, time-order--a writer who is first a reader might

naturally turn such a plan into a traditional albeit unoriginal plan for writing.(16) However, a writer becomes "notable" when he or she strategically deviates from these norms (Elbow, 1984), creating what is essentially an organic, experience-based plan that improves upon time-worn organizational patterns.(17) Stephen Witte (1985) through extensive product analyses of personal narrative assignments, has begun to document how students successfully create autonomous, experience-based text structures.(18) This study seeks to explore this phenomenon as well, tracing the decisions and variables that speed the process.(19)

An exploratory study need not be run blind. (20) Findings from previous research and protocol analyses suggest the following list of predictable behaviors in the reading to write scenario. (21) A subject might:

1. Balance text-based and experiential knowledge successfully to complete the task--
   a. using both to form a coherent, organized, and original design for the draft.
   b. choosing a personal organizing principle inherent in the recollection to structure the paper and otherwise structure the key issues in the texts.
   c. choosing one of Meyer's text-specific organizational patterns to structure a draft, adding substance with experience-based elaborations. (22)

2. Lean on experiential knowledge and loose sight of the task--
   a. selecting only those issues in the reading that comfortably match experience, ignoring other germane issues.
   b. ignoring the texts altogether, digressing into a narrative or personal elaboration which distorts the task.
   c. misrepresenting key points in the texts by illogically attaching personal background knowledge. (23)

3. Rely on text-based knowledge exclusively, ignoring any and all related experience. (24)

These predictions in effect create a working hypothesis on the range of behaviors possible in a reading to write assignment. (25) Coupled with the findings here they will form data base on which a model of expert behavior can be built. (26) That model and a computer tutorial based on that model are the long-range goals of this research and should offer substantive answers to the educational question of how can facility with experiential and text-based knowledge be taught. (27)

This text deals with the same topic as Text 2. It is the first time in his graduate career that Nate has been able to run a follow-up study and write a second paper on the same topic; hence it is interesting to compare these two texts. Like Text 2, this introduction displays the sequence of six rhetorical moves described by Dudley-Evans. Sentences 1 and 2 introduce the general field, "relationships between writing and reading processes" (Move 1). Sentences 3 and 4 narrow the topic to "how reading and writing facilitate each other" (Move 2). Sentences 5-8 narrow the topic further to "the role of experiential knowledge" (Move 3).

Overlapping with Move 3 is Move 4, in which Nate defines the scope of his topic by summarizing previous research (Sentences 6-8). He then prepares for present research (Move 5) by indicating how previous research by Judith Langer can be extended (Sentences 9-12). Finally, he introduces the present research (Move 6) with a lengthy discussion of aims and justification (Sentences 13-27).

Text 3 differs from Text 2, however, in significant ways. It elaborates more on every one of the six rhetorical moves and is more than twice as long. Where Text 2 devotes four sentences to introducing the topic (Moves 1-3), Text 3 devotes eight. Where Text 2 discusses four previous studies (Moves 4-5), Text 3 discusses twelve. Most importantly, where Text 2 introduces present research (Move 6) by simply stating a thesis, Text 3 introduces present research via an elaborate, hierarchically organized series of hypotheses. Clearly, Nate has not only become aware of the standard rhetorical moves of this genre, he has also learned how to use them to better effect. Text 3 draws more on information reported in antecedent texts by other researchers than does Text 2. It is also more sensitive to the possibility that, without the necessary evidence and warrants, some readers may not accept the claims the writer is about to make.

Although there remain a few "off-register" metaphorical expressions such as "dead center," (5) and "nourished" (6) most of the prose in this text is cast in the neutral, "objective" style associated with social science expository writing. Readers may want to flip back a few pages and compare the style of this text to the more informal "oral" style in Text 1. Here Nate is projecting a more "scientific" *persona*. In fact, one of the most striking differences between Text 1 and Text 3 is the transformation of the relationship between persona and subject matter. In Text 3 the writer directs the reader's attention toward the issues under discussion, rather than to his sensibility as he had done in Text 1. Even in Text 2, the writer had occasionally adopted the first person pronoun. For example, in sentence 7 of that text he had asserted, "Though I do not argue the place or nature of expressive writing, I do argue that another image of the writer is equally viable." In contrast to the 23 first person singular pronouns in Text 1 and the four first person singular pronouns in Text 2, here Nate avoids the first person singular pronoun altogether. The frequent use of first person, the informal oral style and metaphorical constructions in Text 1 created the sense of the writer's subjective involvement with the subject matter, a position less appropriate for a researcher striving for publication. In Text 3, the writer's expression of a personally "felt difficulty" has been replaced by a "neutral" description of a "significant" research issue. The writer documents the significance of this issue by using citations. For example, the string of citations that appear in sentence 7 refer anaphorically to subject and verb of the sentence ("research. . . supports") and serve to instantiate the writer's claim, "research supports our intuitions that background knowledge significantly affects the construction of meaning in a text." Nate's use of this technique as well as his "socially appropriate" persona and style are signs of his increasing command over the conventions of writing about research.

Text 3 would probably be the most difficult of the three introductions to decipher for readers outside of the community of specialists to whom Nate was writing. To many readers Nate's meaning will appear to be obfuscated by a thicket of jargon. One encounters throughout a technical terminology familiar primarily to a specialized readership of cognitive psychologists and psycholinguists. Some examples of this terminology are "experiential knowledge" (5) (11) (13), "experience-based knowledge"(8), "experience-based plan" (17), "autonomous

experience-based text structures" (18), "text-based knowledge" (8), "text-based topic knowledge" (9), "topic knowledge" (11), "hierarchically display(ed) meaning" (11), "reading and writing scenario" (11), "hierarchical text plans" (14) and "mental representations" (14). Nate's use of this terminology suggests that he is able to speak in the discourse of a specialized readership. More importantly, it indicates that he is building a conceptual network that will allow him to interact with other members of this specialist community, to identify important research issues and problems --in general, to understand and perhaps share in the community's epistemology.

In summary, Text 3 is "intertextual" (deBeaugrande and Dressler 10-11; Porter 35) in ways that Texts 1 and 2 are not. First, the text carries explicit links to the literature cited in the terminology, research findings, and concepts used to construct the introduction. Through the appropriate inclusion of these explicit intertextual referents, Nate clarifies for his readers the basis from which he means to contribute to a discourse community. Another form of explicit intertextual link is Nate's increased facility with standard rhetorical moves specific to this genre. In Text 3, he has internalized, and can now use with increased flexibility, the socially agreed-upon rhetorical conventions of a specialized field. Intertextuality is not limited to explicit textual referents, however, and is comprised of implicit codes, discursive practices, and assumptions inherent in discourse communities (Culler, Miller). We conclude that Nate's sensitivity to shared beliefs, preferred evidence, and the persona he adopts suggests an awareness of the presuppositions of his chosen field of study.

While Text 3 gains strength through this intertextuality, it remains collaborative as well, since it is staged within a local conversation and is directed at an immediate readership. In Text 1 the writer had been an isolated newcomer inquiring whether anyone shared his "dilemma." In Text 2, we see the embryonic researcher learning a theoretical model and research methodology reflected in the terminology he is beginning (albeit somewhat awkwardly) to use. By Text 3 Nate has assimilated a literature and a lexicon and, therefore, is more comfortably able to speak in the discourse of his subspecialty.][5] By examining the differences in these three texts, written over three consecutive semesters in graduate school, we can surmise how this writer chose to respond to a new community within his multidimensional linguistic space. Nate did so by learning the rhetorical and linguistic conventions of social science writing, building upon the expertise and experience he brought to his graduate schooling.

Conclusion

It would be simplistic to infer from the texts that we have reported on (and from the other case study data that we collected) that Nate, in the process of becoming a composition researcher, abandoned his previous writing community of friends and teachers. Rather, he brought bits and pieces of his experience as writing teacher to his new role as an apprentice researcher. For this reason it would be a mistake to assume that Nate was transformed by the environment that he entered. Like many sophisticated language users, Nate is able to move between the various speech communities to which he belongs, adapting his discourse to achieve various intellectual, social, and professional ends.

This is not to say that his passage does not raise some interesting questions for scholars interested in the growth of knowledge in composition studies. How,

for example, do the sociopolitical constraints that govern the "manufacture of knowledge" in composition studies affect a graduate student' s choice of research program? To what extent are the issues that concern composition teachers subsumed by the agendas of mentors as they join powerful research or scholarly enterprises, such as the one that we studied? How will the increasing graduate specialization in rhetorical studies and educational research affect the development of the canon within composition studies? We raise these questions because composition studies is a young field bound to be affected by the above factors.

Socialization studies such as the one we have reported above may also raise pedagogical questions that will concern composition teachers and scholars: What does learning the multiple registers and codes of various academic communities entail both cognitively and socially for undergraduate students? How does acquiring specialized literacy affect the graduate writer's world view, or his or her ethnic and gender identity? Finally, to paraphrase Nate, what does it mean to the undergraduate or graduate student to become *sensitized to the scientific canon*--or the literary canon--or the canons of the many subspecialties within these broad fields of inquiry?

It is to Nate that we turn to provide, if not an answer, an insight:

I just need to do it if for no other reason that you have to know something from the inside before you can fairly criticize it.

FOOTNOTES

[1] See Bruffee ("Social Construction" 775) citing Geertz (153) for the roots of this position in social constructionist epistemology.

[2] By "social science expository writing," we mean the non-literary kind of writing commonly used in journals like *Research in the Teaching of English* and *Written Communication* to report on empirical research.

[3] A more detailed account of Nate's register shifts can be found in Berkenkotter, Huckin, and Ackerman (1988).

[4] It is increasingly accepted that reading, along with writing, is a constructive act where the reader, like the writer, uses goals, knowledge, and strategies to make meaning. (This note belongs to Nate's text. We altered the numbering to make it consistent with our notes.

[5] In an earlier study (Berkenkotter, Huckin, and Ackerman, 1988), we used certain stylistic features to compare Nate's writing during this time with that of nine experts who served as "models" for him. We found that his writing became more and more like that of these experts. If we analyze the present three texts in a similar way, we find a similar pattern, especially in the change of style between Texts 1 and 2 (see Table 1).

	Avg. Sent. Length	Connectives	Discourse Demonstratives	I's	Article Ratio
Text 1	17.8	10.8	6.4	50.4	1.3:1
Text 2	23.6	10.6	8.0	10.6	1.8:1
Text 3	21.2	9.7	17.0	0.0	1.5:1
Experts	26.2	11.3	8.5	2.7	3.1:1

Table 1. Some Stylistic Features of Nate's Writing and Expert Writing

If we take average sentence length as a crude measure of syntactic complexity, then it seems to indicate that Nate's writing becomes more syntactically complex in Text 2 and then eases off somewhat in Text 3. Meanwhile, if we use connectives, discourse demonstratives (*this, that, these, or those* used anaphorically), and the ratio of definite articles to indefinite articles as indicators of coherence, then Nate's writing appears to become increasingly more coherent despite its increasing complexity (Johansson 23-36).

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